

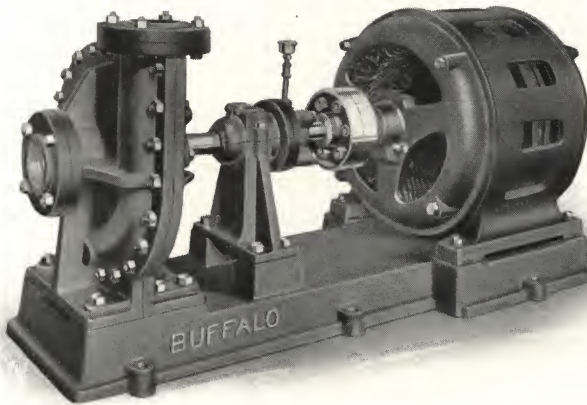
# **“BUFFALO”**

## **Steam Pump Company**

**BUFFALO, N. Y.**

**BULLETIN No. 261**

### **Acid Pumps**



**Fig. 969**

**3-inch Buffalo Acid Pump Direct Connected to  
Electric Motor**

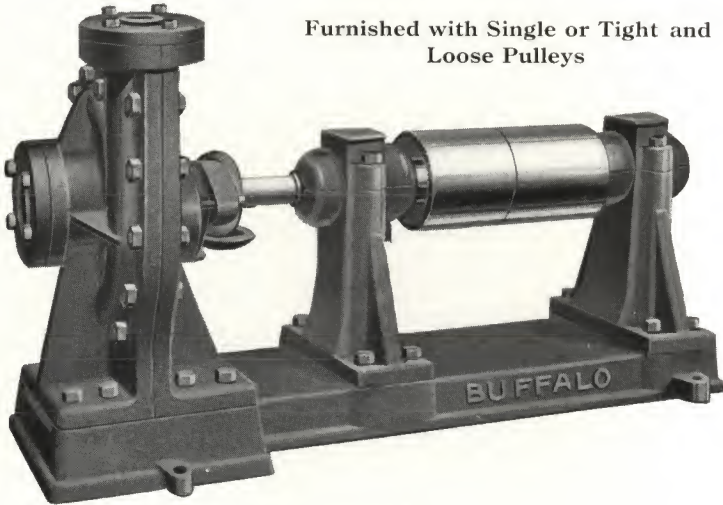


BUFFALO PUMPS

BULLETIN No. 261



## Buffalo Acid Pumps



Furnished with Single or Tight and  
Loose Pulleys

Fig. 965

Single Belted Pump with Tight and Loose Pulleys

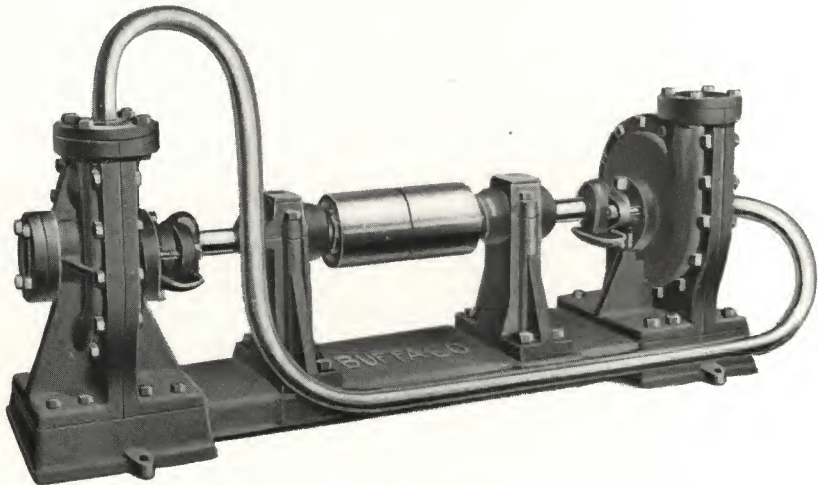


Fig. 966

Twin Belted Hard Lead Pump

Connecting pipe for compounding the two pump ends (as shown) furnished  
at extra price.



## Buffalo Acid Pumps

We manufacture pumps of this style in sizes  $1\frac{1}{2}$ " , 2" and 3" suction and discharge. These are being used by many prominent concerns for handling chemical liquors and acids, with the very greatest success.

We are also prepared, and well equipped to design and build special pumps to suit customer's specifications as to type, material and method of drive, and correspondence is invited with those having special problems to solve or who want their own designs built to order.

The illustrations published show our usual standard pumps, which may be furnished either belted or arranged for direct connection to electric motor. The bearings are of the ring-oiling type fitted with removable, split, bronze liners, making them the very best which can be built. All details of the design fulfill the requirements of hard, continuous service, and customers are assured a pump second to none on the market.

Iron pumps are generally used for strong sulphuric acid above 65 Baumé, as well as for lye and ammonia solutions, chloride of lime, etc.

Lead pumps are used for handling weak sulphuric acids up to 45 or 50 Baumé, or, if the acid is cold, up to 65 Baumé. If sulphuric acid is both hot and cold ranging from 45 to 50 Baumé, a lead pump is recommended for the best all-round service. The material is best also for handling alum liquors, bi-sulphite liquors, sulphates of aluminum, copper and nickel neutral solutions as well as phosphoric acid.

Our lead pumps are built of about 92 per cent. commercially pure lead, alloyed with about 8 per cent. antimony to give the requisite stiffness to the various parts. For phosphoric acid, some of our customers prefer lead pump shell and impeller with bronze shaft sleeve and gland.

Bronze pumps are used for acetic and tartaric acids, sulphate of iron solutions, carbonates of sodium and copper, and cyanide of copper.

These pumps can also be built of block tin, aluminum or other special metals, if required for special service, at prices which will be quoted on request with full specifications as to metal.

The shaft stuffing box packing which is generally used for corrosive acids is asbestos wicking saturated with kerosene and graphite, although for some conditions customers use pure rubber rings.

Care must be used not to tighten stuffing box too tightly. It should be permitted to leak slightly, and for this condition a special gland arrangement is used provided with drip box underneath.



# BUFFALO PUMPS

BULLETIN No. 261

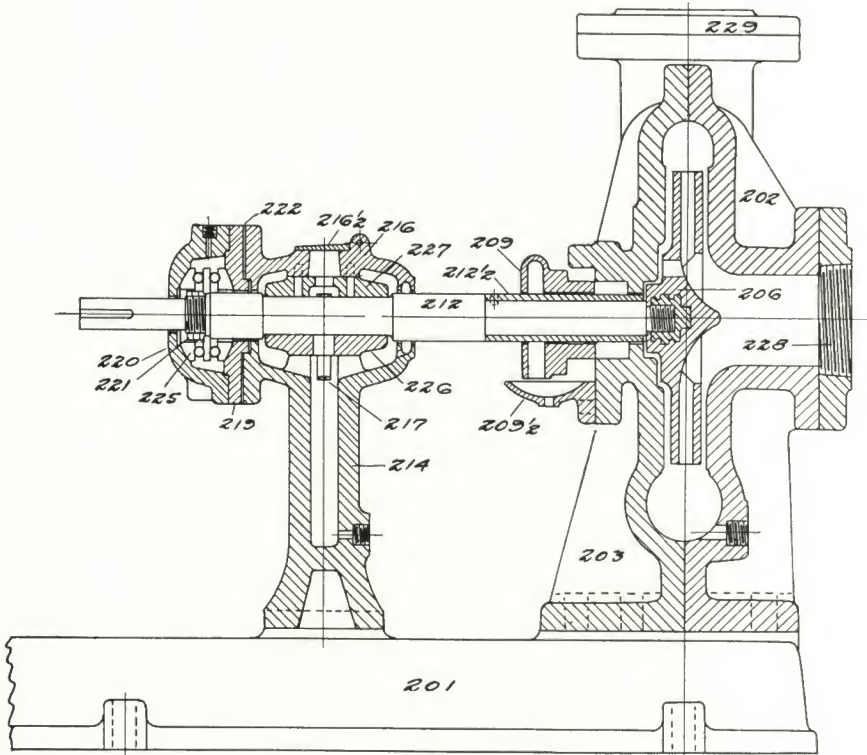


Fig. 973

## Sectional View of Motor Driven Single Pump

All pumps have same size suction and discharge openings.

In ordering spare parts, give part number, size and stop number of pump appearing on brass nameplate attached to same, and state material (cast iron, lead, copper or bronze) which you wish parts made of.

Part No.	Name of Part.	Part No.	Name of Part.
201	Sub-Base.	217	Oil Ring.
202	Suction Half Shell.	219	Thrust Support Plate.
203	Stuff. Box Half Shell.	220	Thrust Cover.
206	Impeller.	221	Shaft Thrust Nut.
209	Gland.	222	Sheet Iron Shims.
209½	Drip Box.	225	Complete Ball Bearing.
212	Shaft.	226	Lower Half Bearing Shell.
212½	Shaft Sleeve.	227	Upper Half Bearing Shell.
214	Bearing Stand (with flange).	228	Suction Companion Flange.
216	Bearing Cap.	229	Discharge Companion Flange.
216½	Oil Cover.		





# BUFFALO PUMPS

BULLETIN No. 261



## Buffalo Acid Pumps

Size One and one-half inch

(Capacity: 55 Galls. Per Minute)

STYLE OUTFIT		With Single Pulley	With T. & L. Pulleys	With Motor Base and Flanged Coupling	Approx. Weight lbs.	
1½" Suction and 1½" Discharge						
Single Iron Pump.....		<i>Mpnaf</i>	<i>Mptim</i>	<i>Mpeor</i>	350	
Twin Iron Pump.....		<i>Mpneg</i>	<i>Mpton</i>	<i>Mpeur</i>	750	
} Two Pumps on one base, {						
} pulley or motor in center }						
Single Hard Lead Pump.....		<i>Mpnih</i>	<i>Mptup</i>	<i>Mpvys</i>	400	
Twin Hard Lead Pump.....		<i>Mpnoj</i>	<i>Mptyr</i>	<i>Mpwam</i>	850	
Single Copper Pump.....		<i>Mpnuk</i>	<i>Mpvai</i>	<i>Mpwen</i>	375	
Twin Copper Pump.....		<i>Mpnyl</i>	<i>Mpvem</i>	<i>Mpvip</i>	800	
Single Bronze Pump.....		<i>Mplak</i>	<i>Mpvin</i>	<i>Mpvur</i>	375	
Twin Bronze Pump.....		<i>Mplcl</i>	<i>Mpvop</i>	<i>Mpvus</i>	800	
Feet Total Working Head.....	10	20	30	40	50	60
Speed Single Pulley Pump, 55 Galls.....	780	1050	1280	1470	1650	1800
H. P. Required, 60° Baumé.....	1.1	2.1	3.1	4.0	5.0	6.0

Size Two-inch

(Capacity: 100 Galls. Per Minute)

STYLE OUTFIT 2" Suction and 2" Discharge	With Single Pulley	With T. & L. Pulley	With Motor Base and Flanged Coupling	Approx. Weight lbs.		
Single Iron Pump.....	<i>Mqach</i>	<i>Mqbfo</i>	<i>Mqbye</i>	400		
Twin Iron Pump.....	<i>Mqads</i>	<i>Mqbth</i>	<i>Mqdoh</i>	850		
} Two Pumps on one base, {						
} pulley or motor in center }						
Single Hard Lead Pump.....	<i>Mqalb</i>	<i>Mqbfu</i>	<i>Mqdbu</i>	450		
Twin Hard Lead Pump.....	<i>Mqang</i>	<i>Mqbmy</i>	<i>Mqdej</i>	950		
Single Copper Pump.....	<i>Mqard</i>	<i>Mqbfj</i>	<i>Mqdfj</i>	425		
Twin Copper Pump.....	<i>Mqast</i>	<i>Mqbss</i>	<i>Mqdhk</i>	925		
Single Bronze Pump.....	<i>Mqbaf</i>	<i>Mqbuk</i>	<i>Mqdkk</i>	425		
Twin Bronze Pump.....	<i>Mqbej</i>	<i>Mqvue</i>	<i>Mqdhe</i>	925		
Feet Total Working Head.....	10	20	30	40	50	60
Speed Single Pulley Pump, 100 Galls.....	850	1125	1350	1550	1730	1875
H. P. Required, 60° Baumé.....	1.9	3.3	4.6	5.8	7.2	8.8

Size Three-inch

(Capacity: 225 Galls. Per Minute)

STYLE OUTFIT 3" Suction and 3" Discharge		With Single Pulleys	With T. & L. Pulleys	With Motor Base and Flanged Coupling	Approx. Weight lbs.		
Single Iron Pump.....		<i>Mqdol</i>	<i>Mqark</i>	<i>Mqfui</i>	750		
Twin Iron Pump.....		<i>Mqdsi</i>	<i>Mqess</i>	<i>Mqfom</i>	1600		
	Two Pumps on one base, pulley or motor in center						
Single Hard Lead Pump.....		<i>Mqdum</i>	<i>Mqfoj</i>	<i>Mqfso</i>	850		
Twin Hard Lead Pump.....		<i>Mqdwo</i>	<i>Mqfoy</i>	<i>Mqfun</i>	1800		
Single Copper Pump.....		<i>Mqdyn</i>	<i>Mqfek</i>	<i>Mqfwu</i>	800		
Twin Copper Pump.....		<i>Mqeti</i>	<i>Mqfga</i>	<i>Mqfxp</i>	1700		
Single Bronze Pump.....		<i>Mqelc</i>	<i>Mqflt</i>	<i>Mqfys</i>	800		
Twin Bronze Pump.....		<i>Mqend</i>	<i>Mqfke</i>	<i>Mqfzt</i>	1700		
Feet Total Working Head.....	10	20	30	40	50	60	70
Speed Single Pulley Pump, 225 Galls...	720	960	1150	1320	1450	1570	1670
H. P. Required, 60° Baumé.....	4.0	6.8	9.0	11.3	13.2	15.2	17.0



## Buffalo Spray Nozzles

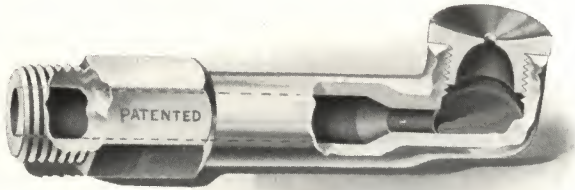


Fig. 1091

Section of Buffalo Spray Nozzle



Fig. 1092

"Buffalo" Spray Nozzle in Operation



# BUFFALO PUMPS

BULLETIN No. 261



## Buffalo Spray Nozzles

The Buffalo Spray Nozzle gives an exceedingly fine spray with a minimum water pressure. Operating at pressures as low as 15 lbs., the centrifugal action of the nozzle produces an atomizing effect which is further increased with the increase in pressure. The greatest atomizing effect is obtained at a pressure of about 40 lbs. The successful results obtained with these nozzles are due to the fact that the water enters the circular chamber tangentially, receiving a whirling motion, and it is not obstructed in any way until its exit through the opening in the disc. As it approaches this opening, an increase of velocity is caused by the change in the shape of the passage until it bursts into an atomized spray, which does not depend for its fineness on the small size of the orifice. For this reason large water passages are used throughout, with consequent freedom from clogging.

The nozzle is made in only two parts, as shown in the cut. The cap can be replaced if the action of the liquid is such as to corrode the metal and destroy the effectiveness of the spray.

While regularly furnished in brass, we make these nozzles in large or small quantities of any material desired. Our Monel metal nozzles have replaced others in producer gas power plants, blast furnaces and chemical plants.

Capacities given in following table are actual test results:

List Prices Each	Dia. of pipe Connection	Dia. of Open- ing in Cap	PRESSURE IN LBS. PER SQUARE INCH									
			10	20	25	30	40	50	60	70	80	90

Brass	Cast Iron	CAPACITIES IN LBS. WEIGHT OF WATER DISCHARGED PER MIN.													
\$ 1.50		¼"	1/32"	.27	.39	.44	.48	.55	.62	.68	.73	.79	.83	.89	
2.00		¼"	1/16"	1	1.5	1.7	1.8	2.1	2.4	2.6	2.8	2.9	3.2	3.4	
2.00		¼"	3/32"	2.3	3.3	3.7	4	4.6	5.2	5.7	6.1	6.5	6.9	7.3	
3.00	\$ 2.50	⅜"	⅛"	4.6	6.5	7.3	8	9.2	10	11	12	13	14	15	
4.00	3.00	⅜"	⅜"	10	15	17	18	21	23	26	28	29	31	33	
4.80	4.00	½"	¼"	18	26	29	32	37	41	45	49	52	56	58	
8.00	5.00	¾"	⅜"	51	72	81	88	102	114	125	135	144	153	162	
12.00	6.00	1"	½"	91	128	144	157	181	202	222	240	257	272		
16.00	7.00	1¼"	⅝"	127	182	204	226	257	287	310					
20.00	9.00	1½"	¾"	186	263	295	332	370	415						
24.00	11.00	2"	⅞"	252	356	400	435	501							
28.00	15.00	2"	1"	330	465	522	570	657							
32.00	20.00	2½"	1¼"	515	728	815	890								



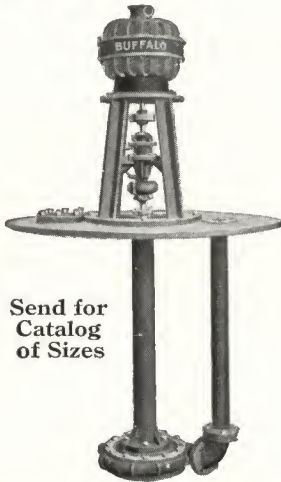


# BUFFALO PUMPS

BULLETIN No. 261



## Buffalo Sump Pump

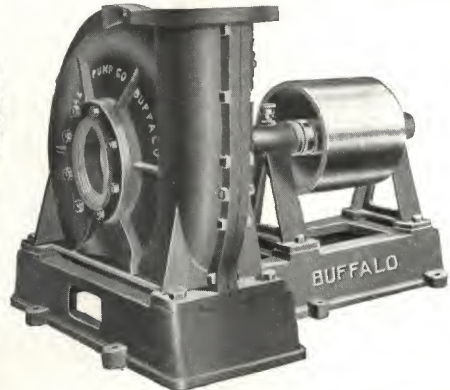
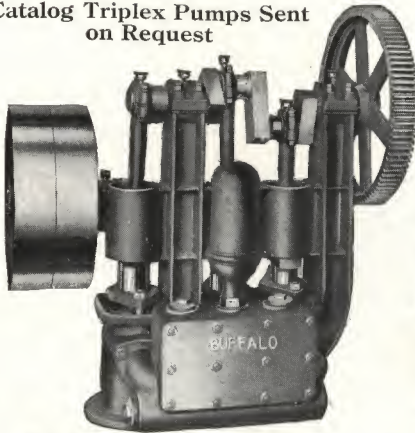


Send for  
Catalog  
of Sizes

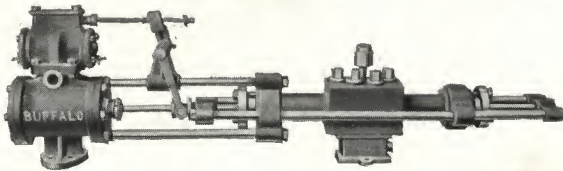
1. A self-contained outfit which on arrival needs only to be uncrated, connections to the automatic starter and motor made, and the unit is ready for operation.
2. Shaft is entirely closed and **really** is protected from action of sump water and possibility of fouling from waste or stringy matter flowing into sump pit.
3. Ball-bearing thrust is provided to carry weight of moving parts, lower ball race resting on spherical seat to permit it to adjust to conditions of alignment.
4. Oil—**not grease**—is used to lubricate this thrust. For intermittent operation at high speed nothing could be a poorer lubricant than grease, which is thrown away from the bearing surfaces by the rapid rotation, and owing to the fact that the pump operates for only a few minutes at a time to empty the sump, the grease does not get warmed up and become fluid enough to flow to the bearing surfaces.
5. Oil lubricant is supplied to the ball-bearing thrust automatically in a continuous flood while pump is in operation.
6. Stuffing-box and gland around shaft cover plate prevent any steam, gases or foul odors rising into room, if edge of cover plate be caulked tight.
7. All parts of outfit easily accessible.

In sending inquiry state whether standard depth of 4 foot sump pit will be used, the total head against which the pump will operate, and what electric current is available to operate motor.

Catalog Triplex Pumps Sent  
on Request



Centrifugal Pump Catalog on Request  
Showing all Styles Single-Stage Pumps



Size 7x1x8.

Forged-Steel End  
Hydraulic Pump

Ask for Catalog on Single Cylinder  
and Duplex Pumps for all  
Pressures and Service

